Jones; Forbes; Brahmins

Agricultural Science and Russian Avant-Garde meet at the first Post-Revolutionary Exhibition in 1923

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The paper studies the history of the All-Russian Agricultural and Handicraft Industrial Exhibition, which took place in Moscow in August 1923. The Exhibition was inspired by the idea of the Bolsheviks' leaders, V.I. Lenin in the first place, to show results of early Soviet modernization to the Russian public, especially to peasants. Simultaneously they wanted to address the global audience: more than 600 foreign companies and institutions were invited to participate as exhibitors. The high patrons of the exhibition planned to demonstrate the achievements of science in modernization of Russian agriculture. The discourses by agricultural scientists, such as S.K. Chaianov, A.V. Chaianov and N.I. Vavilov, as well as avant-garde artists, sculptors, and architects, such as A.A. Ekster, V.I. Mukhina, and K.S. Mel'nokov, in the context of the Exhibition, alluded to the ideas of Revolutionary renovation of Russia.
In particular, I will examine the role of highly esteemed rural economist Alexander Chaianov and his cousin, agronomist Socrat Chaianov in the shaping of artistic design and scientific trends of the Exhibition. Alexander Chaianov, as member of Commission for Planning, was directly involved in art discussions. He was promoting the project of the Exhibition proposed by A.V. Shchusev, an architect who rose to fame his design of Lenin's mausoleum. Young sculptor Vera Mukhina contributed with the design of pavilions; later she created the famous sculpture 'Worker and Collective Farm Girl' for World Exhibition in Paris in 1937.
Socrat Chaianov, a key figure in the Organization Committee, was responsible for the agricultural science. By that time, he had acquired a reputation as a top expert in this field. Within just 8 months Chaianov managed to submit and implement a detailed project of agricultural science exposition with leading experimental institutions as exhibitors. A number of prominent scientists, such as N.I. Vavilov, A.G. Doyarenko, N.M. Tulaikov and others, presented lectures and participated in workshops at the Exhibition.
1.5 million visitors saw the Exhibition. Public interest to the Exhibition was fueled by a combination of valuable exhibits and activities, on the one hand, and artistic design and decoration of pavilions, on the other. The Exhibition became a tool of promoting modernized techniques in agriculture, a model for the organization of future local exhibitions in the remote regions of Soviet Russia.

Agricultural Science, Russian Avant-Garde, the USSR, Alexandr Chaianov, Socrat Chaianov

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Thematic cartography in the works of academician Viktor Sochava

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Academician Victor Sochava (1905 - 1978) made the great contribution in the fields of geography and other related subjects. He is also known as great scientist and the leader of researchers, who were involved in geobotanic mapping, Nowadays he is understood as the creator of botanic map-making as a special kind of cartography.
Victor Sochava and academician Evgenij Lavrenko were also responsible for creation «Vegetation map of European part of USSR» (1950), «Geobotanic map of USSR» (1954) and two volume edition

«Vegetation cover of URRS». The maps of vegetation of Amur basins, Baltic States, the south of Middle and Western Siberia were also created under the supervising of Victor Sochava. His activity as editor and author of numerous maps of USSR and other part of the world led the soviet geobotany school on the top of world geobotany science.
Victor Sochava understood the creation vegetation maps as very essential for understanding geographical environment . The idea of complex mapping was promoted him as great idea for international collaboration of geographers and cartographers. System approach in geography, developed by Victor Sochava, defined a new look for landscape mapping, as a kind of thematic cartography.

landscape; Victor Sochava; geobotanic

Computational techniques for exploring counterfactual histories of science

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Causal models offer an elegant way of representing the historical development of scientific fields. They also allow the exploration of counterfactual scenarios in the history of science. In this work, two methodological strategies are used for studying possible worlds in the history of science. (I) The first strategy starts with the postulation of a counterfactual situation, for whatever reason the historian of science might have. It might involve the early death of a scientist (as in the duel in which Tycho Brahe lost his nose or when the house fell over young Fraunhofer) or the survival of a young scientist from an otherwise fatal disease (such as what took place with Thomas Melvill or Sadi Carnot). In the first case one may have the postponement of an advance, or cases in which a parallel historical path preempts the appearance of the advance. In the second case one may have the anticipation of an advance, and further analysis is required to evaluate if this would have the effect of anticipating a whole train of advances or if some conjunct (another advance which is also necessary for the progress of the field, typically a technological device) would set the pace of scientific development. The construction of a counterfactual scenario should minimize the differences with the actual world, which amounts to what may be called “the principle of the closest possible world” (PCP). (II) A second strategy evaluates the probability that a counterfactual situation may obtain, in reference to a previous branching time tB. This evaluation is done by assuming the actual causal model of the historical episode, and applying a computer simulation that varies the time span between the advances in the causal model (according to a modified gamma distribution function), while maintaining the times of the advances that occur (in the actual world) before tB. A guiding principle in this simulation is what is called “the principle that the actual world is the mean” (PAM). These ideas will be illustrated by several examples from the history of the physical sciences. One hopes to show that computational simulations in history of science may serve as a consistency check for the intuitions and speculations of the historian.

causal models; counterfactual history of science; computer simulations

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From the astronomical instruments to the control of the captaincy: the trajectory of José Simões de Carvalho in the North region of Brazil at the end of the XVIII century

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After signature of the San Ildefonso Treaty (1777) between Portugal and Spain, it was agreed that would be necessary create comissions to demarcate the borders on the Meridional America. In the